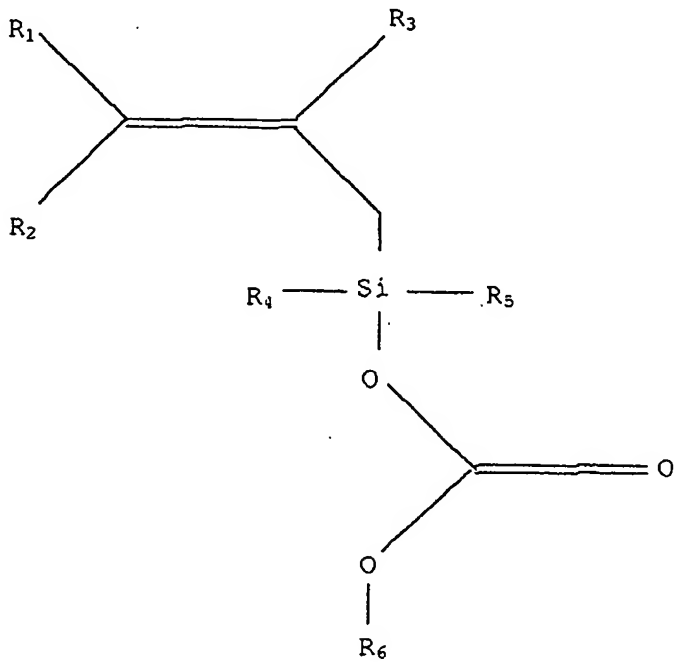
1. A polymerizable composition for the production of a resist, comprising at least one unsaturated, polymerizable monomer having at least one silicon atom and at least one carbonyl group, a monomer being characterized by the following general formula (I):



in which the meanings are as follows:

R_1, R_2, R_3 : H or alkyl radicals, in particular methyl radicals,

R_4, R_5 : alkyl radicals, in particular methyl radicals, further silicon units, e.g. siloxanes

R_6 : alkyl radical, in particular tert-butyl radical,

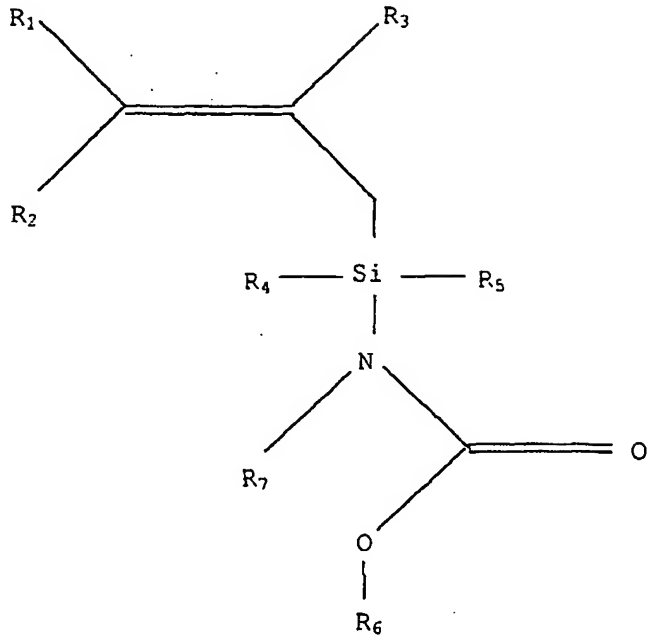
it being possible for R_1, R_2, R_3, R_4, R_5, R_6 to be identical or different.

ART 34 AMDT

2. A polymerizable composition for the production of a resist, comprising at least one unsaturated, polymerizable monomer having at least one silicon atom and at least one carbonyl group, a monomer being characterized by

ART 34 AMDT

the following general formula (II)



in which the meanings are as follows:

R_1, R_2, R_3 : H or alkyl radicals, in particular methyl radicals,

R_4, R_5 : alkyl radicals, in particular methyl radicals, silicon units, e.g. siloxanes

R_6 : alkyl radical, in particular tert-butyl radical,

R_7 : H or alkyl radical, in particular methyl radical,

it being possible for R_1, R_2, R_3, R_4, R_5, R_6, R_7 to be identical or different.

3. The polymerizable composition as claimed in at least one of claims 1 or 2, **characterized in that**

at least one alkyl radical has a chain length of C_1 to C_8.

4. The polymerizable composition as claimed in at least one of the preceding claims, **characterized in that**

monomers as claimed in claim 1, 2 and/or other monomers, in particular maleic anhydride, styrene, p-hydroxystyrene or methacrylic acid, are present for the polymerization.

5. A polymer **prepared by** polymerization of at least one of the compositions as claimed in any of claims 1 to 4.

6. A resist **characterized by** a content of from 2 to 30% of polymer as claimed in claim 5, a content of from 70 to 98% of solvent and a content of from 0.1 to 10% of photo acid generator.

7. The resist as claimed in claim 6, **characterized by** a content of methoxypropyl acetate, ethyl acetate, ethyl lactate, cyclohexanone, gamma-butyrolactone and/or methyl ethyl ketone as a solvent.

8. The resist as claimed in claim 6 or 7, **characterized by** a content of Crivello salt, diphenylsulfonium sulfonate, diphenyliodonium sulfate, phthalimidosulfonate and/or ortho-nitrobenzylsulfonate as a photo acid generator.

9. The resist as claimed in at least one of claims 6 to 8 for use in an electron beam recording process.

10. A lithography process for the production of a structure on a substrate, in particular of a structure for a lithography mask for the production of semiconductor components, **characterized in that** a resist as claimed in any of claims 6 to 8 is used.

11. The lithography process as claimed in claim 9, **characterized in that**

a) a mask blank is coated with a resist as claimed in claim 8,

b) the resist is recorded on by means of a laser and/or electron beam recorder,

c) the structure produced by the recording in the resist is developed,

d) the mask blank is dry-etched.

12. The lithography process as claimed in claim 9 or 10, **characterized in that** a heating step is carried out after recording on the resist.

13. The lithography process as claimed in at least one of claims 9 to 11, **characterized in that** the development is effected with an aqueous alkaline developer, in particular a 2.38% strength aqueous tetramethylammonium hydroxide solution or a TMAH developer.